

WHAT IS CLAIMED IS:

1. A dental magnetic attachment comprising a keeper having an adsorbing surface forming an externally convex curved line in a major axis and an externally convex curved line or a straight line in a minor axis continued to the externally convex curved line in the major axis and having a ratio of a major axis diameter and a minor axis diameter (major axis diameter/minor axis diameter) of 1.02 to 2.0, and a magnet structure comprising a cup yoke formed of a soft magnetic material and a cylindrical permanent magnet embedded in a circular depressed part provided in a central part of the cup yoke, with the depressed part of the cup yoke being sealed by welding with a circular disk plate formed of a soft magnetic material through a non-magnetic ring seal to form a plane adsorbing surface having the substantially same shape as the adsorbing surface of the keeper, with a minor axis diameter of the adsorbing surface of the magnet structure of 1.1 to 1.4 with respect to the diameter of the cylindrical permanent magnet being 1.

2. A dental magnetic attachment as claimed in claim 1, wherein the adsorbing surface of the keeper has a shape forming the externally convex curved line in the major axis, which is a circular arc having a

constant radius with the same center as the center of the major axis, and a straight line in a minor axis continued to the circular arc in the major axis.

3. A dental magnetic attachment as claimed in claim 1, wherein the adsorbing surface of the keeper has an elliptic shape.

4. A dental magnetic attachment as claimed in claim 1 or 2, wherein the adsorbing surface of the magnet structure has a shape forming straight lines in parallel to each other in the minor axis, and plane side surfaces opposite to each other are provided on both sides of the cup yoke as being continued from the straight lines in the minor axis.

5. A dental magnetic attachment as claimed in claim 4, wherein the plane side surfaces opposite to each other are substantially in parallel to each other.

6. A dental magnetic attachment as claimed in one of claims 1 to 5, wherein a ratio of an area ( $S_a$ ) occupied by the cup yoke on the adsorbing surface of the magnet structure and a transversal cross sectional area ( $S_m$ ) of the cylindrical permanent magnet ( $S_a/S_m$ ) is 0.8 to 1.5.

7. A dental magnetic attachment as claimed in one of claims 1 to 6, wherein a prehension bar is provided on a side part of the keeper.

8. A dental magnetic attachment as claimed in one of claims 1 to 7, wherein a column is provided on a surface of the keeper opposite to the adsorbing surface.

9. A process for producing a magnet structure comprising steps of: embedding a cylindrical permanent magnet in a circular depressed part of a cup yoke formed of a soft magnetic material having a shape having the circular depressed part at a central part thereof and an outer shape of a surface having the depressed part forming an externally convex curved line in a major axis and an externally convex curved line or a straight line in a minor axis continued to the externally convex curved line in the major axis with a minor axis diameter of 1.1 to 1.4 with respect to a diameter of the cylindrical permanent magnet being 1, and a ratio of a major axis diameter and the minor axis diameter (major axis diameter/minor axis diameter) of 1.02 to 2.0; and sealing the depressed part of the cup yoke by welding with a circular disk plate formed of a soft magnetic material through a non-magnetic ring seal to form a plane adsorbing surface.

10. A process for producing a magnet structure comprising steps of: embedding a cylindrical permanent magnet in a circular depressed part of a cup yoke formed

of a soft magnetic material having a circular transversal cross sectional shape and having the circular depressed part at a central part thereof; sealing the depressed part of the cup yoke by welding with a circular disk plate formed of a soft magnetic material through a non-magnetic ring seal to form a plane surface, so as to produce a magnet structure having a circular transversal cross sectional shape; and ablating side parts of the cup yoke opposite to each other to a plane shape, so as to make a minor axis diameter of 1.1 to 1.4 with respect to a diameter of the cylindrical permanent magnet being 1, and a ratio of a major axis diameter and the minor axis diameter (major axis diameter/minor axis diameter) of 1.02 to 2.0.

11. A process for producing a keeper comprising a step of ablating opposite side parts of a circular keeper formed of a soft magnetic material to a plane shape to form an adsorbing surface having a ratio of a major axis diameter and the minor axis diameter (major axis diameter/minor axis diameter) of 1.02 to 2.0.

12. A process for producing a dental magnetic attachment comprising steps of: preparing a keeper formed of a soft magnetic material having an adsorbing surface having a circular plane shape, and a magnet structure comprising a cup yoke formed of a soft magnetic

material having a circular depressed part at a central part thereof and an outer shape of a surface having the depressed part in the same shape as the adsorbing surface of the keeper, and a cylindrical permanent magnet embedded in the depressed part, with the depressed part being sealed by welding with a circular disk plate formed of a soft magnetic material through a non-magnetic ring seal to form a plane adsorbing surface; and ablating simultaneously opposite side parts of the magnet structure and those of the keeper in a state where the adsorbing surface of the magnet structure and the adsorbing surface of the keeper are attached to each other through magnetism, so as to obtain a keeper having an adsorbing surface having a ratio of a major axis diameter and the minor axis diameter (major axis diameter/minor axis diameter) of 1.02 to 2.0, and a magnet structure having an adsorbing surface having the same shape as the adsorbing surface of the keeper and a minor axis diameter of 1.1 to 1.4 with respect to a diameter of the cylindrical permanent magnet being 1.